

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-010253**Date Inspected:** 23-Nov-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Yumin**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Trail Assembly**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector, S. Manjunath. Math. was present during the time noted above for observations relative to the work being performed.

This QA Inspector randomly observed the following work in progress:

Orthotropic Box Girder (OBG) Assembly Area

Segment 1AW

This Quality Assurance (QA) Inspector witnessed final tension verification for Traveler Rail bolts installed at Panel Point 10 for Segment 1AW. Inspected 10% on a random basis and found the tension to be in general compliance.

Bolt sizes used were M22 x 90 RC Set# DHGM220048 and final torque required is 500 N-m.

Bolt sizes used were M22 x 100 RC Set# DHGM220049 and final torque required is 493 N-m.

Bolt sizes used were M22 x 120 RC Set# DHGM220051 and final torque required is 433 N-m.

Bolt sizes used were M22 x 130 RC Set# DHGM220055 and final torque required is 513 N-m.

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Bolt sizes used were M20 x 85 RC Set# DHGM200003 and final torque required is 346 N-m.

Bolt sizes used were M20 x 60 RC Set# DHGM200006 and final torque required is 340 N-m.

The Traveler Rail Bracket was identified as TR 2D – PP 10 – 3GK. Manual Torque wrench was been used with Sr. No. XO2 - 675.

### Segment 1BW

This Quality Assurance (QA) Inspector witnessed final tension verification for Traveler Rail bolts installed at Panel Point 11 and Panel Point 12 for Segment 1BW. Inspected 10% on a random basis and found the tension to be in general compliance.

Bolt sizes used were M22 x 90 RC Set# DHGM220048 and final torque required is 500 N-m.

Bolt sizes used were M22 x 100 RC Set# DHGM220049 and final torque required is 493 N-m.

Bolt sizes used were M22 x 120 RC Set# DHGM220051 and final torque required is 433 N-m.

Bolt sizes used were M22 x 130 RC Set# DHGM220055 and final torque required is 513 N-m.

Bolt sizes used were M20 x 85 RC Set# DHGM200003 and final torque required is 346 N-m.

Bolt sizes used were M20 x 60 RC Set# DHGM200006 and final torque required is 340 N-m.

The Traveler Rail Bracket was identified as TR 1B – PP 11 – 3GK and TR 2A – PP 12 – 3GK. Manual Torque wrench was been used with Sr. No. XO2 - 675.

### Segment 1AAW, 1AW and 1BW

This Quality Assurance (QA) Inspector witnessed final tension verification for Lower Location Triangle connecting the Longitudinal Diaphragm to Floor Beam bolts installed at Panel Point 8.5 to 12.75 for Segment 1AAW, 1AW and 1BW. The Inspection Notification was cancelled by ZPMC as the inspection area was covered with debris of blasting material.

### Segment 6AW

This QA Inspector observed ZPMC welding personnel performing Flux Cored Arc Welding (FCAW) for FL3 Floor Beam Extension. The welder is identified as 220069. The Weld Joint is identified as SSD25-PP39-035 and 036. In process FCAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B-T-2132. Noticed the parameter recorded by QC complies the WPS.

### Segment 6AW

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This QA Inspector observed ZPMC welding personnel performing Flux Cored Arc Welding (FCAW) for FL3 Floor Beam Extension. The welder is identified as 220066. The Weld Joint is identified as SSD25-PP39-030 and 031. In process FCAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B-T-2132. Noticed the parameter recorded by QC complies the WPS.

### Segment 6AW

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for FL3 Floor Beam Extension. The welder is identified as 066261. The Weld Joint is identified as SSD25-PP39-221. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B-P-2214-Tc-U4b-FCM-1. Noticed the parameter recorded by QC complies the WPS.

### Segment 6AW

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for FL3 Floor Beam Extension. The welder is identified as 067571. The Weld Joint is identified as SSD25-PP39-222. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B-P-2214-Tc-U4b-FCM-1. Noticed the parameter recorded by QC complies the WPS.

### Segment 1AW to 1BW

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for Segment 1AW to 1BW Bottom Panel UT rejected areas as per the ABF report No. UT-1W-017. The Y Datum is identified as 530mm, 1040mm, 1050mm, 3575mm, 3590mm, 4840mm, 4850mm, 5350mm, 5660, 5770mm, 1180mm, 1280mm, 6100mm, 7990mm, 8120mm and 8250mm (Total 16 Locations). The weld joint number was identified as OBW1A-008. The welder is identified as 068917. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-345-SMAW-4G (4F)-FCM-Repair-1. Noticed the parameter recorded by QC complies the WPS.

### Segment 1AW to 1AAW

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for Segment 1AW to 1AAW Bottom Panel UT rejected areas as per the ABF report. The Y Datum is identified as 5585mm (1 Location). The weld joint number was identified as OBW1A-004. The welder is identified as 054467. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-345-SMAW-4G (4F)-FCM-Repair-1. Noticed the parameter recorded by QC complies the WPS.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

### Summary of Conversations:

No relevant conversations.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or

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remedial efforts please contact , who represents the Office of Structural Materials for your project.

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**Inspected By:** Math,Manjunath

Quality Assurance Inspector

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**Reviewed By:** Miller,Mark

QA Reviewer